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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,526	11/12/2003	Michiya Katou	1018.1192101	9310

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EXAMINER	
HUNNINGS, TRAVIS R	

ART UNIT	PAPER NUMBER
2632	

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/713,526	KATOU, MICHIYA	
	Examiner	Art Unit	
	Travis R Hunnings	2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by McClelland et al. (McClelland; US Patent 6,710,708).

Regarding claim 1, McClelland discloses *Method And Apparatus For A Remote Tire Pressure Monitoring System* that has the following claimed subject matters:

The claimed transponder for a tire condition monitoring apparatus that detects condition of a tire and wirelessly transmits data representing the detected condition in response to radio waves having a field intensity equal to or greater than a predetermined level is met by the tire monitors in each tire of the vehicle including a switch which is activated by detection of a relatively low frequency signal transmitted from a nearby exciter and in response to the detected signal, the detector transmits tire characteristic data including identification information (col1 53-65). It is inherent that the

low frequency signal transmitted from a nearby exciter must have a field intensity equal to or greater than a predetermined level in order for the tire monitor to be able to detect the signal;

The claimed transponder being provided in a tire valve is met by the tire monitor being fabricated to include the tire valve stem (col3 27-32 and figure 2).

Regarding claim 2, McClelland discloses all of the claimed limitations. The claimed tire condition monitoring apparatus wherein the transponder is embedded in the tire is met by the tire monitor being fabricated to include the tire valve stem (col3 27-32 and figure 2).

Regarding claim 3, McClelland discloses all of the claimed limitations. The claimed transponder including a coil antenna, which is induced by radio waves having a field intensity equal to or greater than a predetermined level to generate electricity is met by the tire monitor having a receiver circuit that has a tuned inductor coil that resonates in response to an activation signal from an exciter that also is used to power the tire monitor (col4 2-16). The claimed condition detecting device for detecting condition of the tire is met by the sensor that detects a characteristic of the tire and produces a signal (col3 44-45). The claimed transponder, wherein, based on the electricity induced by the coil antenna, detects condition of the tire with the condition detecting device and wirelessly transmits data representing the detected condition is met by the tire monitor receiving the low frequency signal, using that signal to power the

circuit then transmitting the tire monitor information using a high frequency signal (col4 50-61). The claimed limitation of a "coil antenna" is interpreted as a coil of wire that is used to transmit and receive signals.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClelland.

Regarding claim 6, McClelland discloses all of the claimed limitations. The claimed apparatus for monitoring condition of tires of a vehicle comprising a transmitter-receiver that transmits radio waves having a field intensity equal to or greater than a predetermined level at a predetermined timing is met by the controller and plurality of exciters (col7 45-67 and col8 1-3). The claimed transmitting at a predetermined timing would have been obvious when the exciter is automatically controlled, thereby permitting automatic tire pressure monitoring (col1 53-65). The claimed transponders wherein each transponder is provided in one of the tires is met by the plurality of tire monitors each being provided in a tire of the vehicle (col7 45-54). The claimed

transponders each including a pressure sensor for measuring the air pressure of the corresponding tire is met by each tire monitor having a sensor that provides data indicative of a tire characteristic that is a pressure sensor (col7 45-54 and col3 44-47). The claimed transponders each having a coil antenna, wherein, when receiving the radio waves the coil antenna induces electricity for activating the pressure sensor, and transmits the air pressure data measured by the pressure sensor is met by the tire monitor having a tuned inductor coil (col4 2-16) that receives the low frequency signal, using that signal to power the circuit then transmitting the tire monitor information using a high frequency signal (col4 50-61). The claimed limitation of a "coil antenna" is interpreted as a coil of wire that is used to transmit and receive signals.

Regarding claim 7, McClelland discloses all of the claimed limitations. The claimed apparatus wherein each transponder is embedded in the corresponding tire is met by the tire monitor being fabricated to include the tire valve stem (col3 27-32 and figure 2).

5. Claims 4, 5, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClelland in view of Senba et al. (Senba; US Patent Publication 2003/0179151).

Regarding claim 4, McClelland discloses all of the claimed limitations except for the claimed pair of annular magnetic plates wherein the magnetic plates are each provided on one of an outer circumference and an inner circumference of the coil

antenna, respectively. Senba discloses *Communication Device, Installation Structure For The Communication Device, Method Of Manufacturing The Communication Device, And Method Of Communication With The Communication Device* that teaches arranging sheet-like magnetic material around both sides of a coil antenna (paragraph 43). Adding the sheet-like magnetic material around the sides of a coil antenna would restrain attenuation of magnetic flux for communication with the coil antenna (paragraph 44). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by McClelland according to the teachings of Senba to add a pair of annular magnetic plates to the coil antenna.

Regarding claim 5, McClelland discloses all of the claimed limitations except for the claimed pair of annular magnetic plates, wherein the magnetic plates are each provided on one of axial end faces of the coil antenna, respectively. Senba teaches an antenna coil that is arranged between two sheet-like magnetic materials (paragraph 53). Placing sheet-like magnetic materials on top and bottom of the antenna coil in order to increase communication distance (paragraphs 54 and 55). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device disclosed by McClelland according to the teachings of Senba to add a pair of annular magnetic plates placed on axial end faces of the coil antenna.

Regarding claim 8, the claim is interpreted and rejected as claim 4 stated above.

Regarding claim 9, the claim is interpreted and rejected as claim 5 stated above.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Handfield et al. USP 5,540,092

Uzzo, USP 4,609,905

Carroll, USP 4,724,427

Pollack et al. USP 5,181,975

Rensel et al. USP 5,977,870

Wacker et al. USP 6,204,758

Cantu et al. USP 6,829,926

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R Hunnings whose telephone number is (571) 272-3118. The examiner can normally be reached on 8:00 am - 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRH

DANIEL WU
SUPERVISORY PATENT EXAMINER
3/21/05